REMARKS

Applicant respectfully requests reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks.

Claims 1-9, 15-22, 24-29 and 35 are pending in the application, with claims 1, 16 and 28 being independent. Claims and 30-34 were previously canceled, and claims 10-14, 23 are canceled herein without prejudice to or disclaimer of the subject matter recited therein. Specifically, the respective subject matter recited in these claims is incorporated into their respective independent claims. Claims 1, 16, 28-29 and 35 are amended herein. Support for the claim amendments and additions can be found in the original disclosure, by example, paragraphs [0025]-[0027] and [0045]-[0048]. No new matter has been added.

§ 101 REJECTION

Claims 16-29 and 35 stand rejected under 35 U.S.C. § 101 as allegedly being directed to non-statutory subject matter. Applicant respectfully traverses the rejection but in a cooperative gesture to advance the instant application to allowance, has amended the subject claims as provided above to overcome the rejection. As mentioned above, agreement was reached during the interview that the current amendments would overcome the standing rejection.

Accordingly, Applicant respectfully requests that the standing rejection be withdrawn.

CITED REFERENCES

The following references have been applied to reject one or more claims of the application:

- **Williamson**: Williamson et al, "A Primal-Dual Approximation Algorithm for Generalized Steiner Network Problems", 1993
- **Kodialam**: Kodialam et al, U.S. Patent No. 6,778,531
- **Karr**: Karr et al, "Derivation of the Ellipsoid Algorithm", 1990
- **Hougardy**: Hougardy et al, "A 1.598 Approximation Algorithm for the Steiner Problem in Graphs", 1999

§ 103 REJECTION

Claims 1, 2 and 5-14

Claims 1, 2 and 5-14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Williamson in view of Kodialam. As mentioned above, claims 10-14 are canceled with the subject matter recited therein, incorporated it independent claim 1. Based on the following, Applicant respectfully traverses the rejection.

Nevertheless, without conceding the propriety of the rejection and in the interest of expediting allowance of the application, **claim 1** has been amended and recites the following:

A system, comprising:

a server including at least one processor and at least one computer-readable storage medium, the computer-readable storage medium comprising:

a component that receives a subset of data corresponding to the linear program;

a component that receives a user input for a selection of at least one of the subset of data to bias at least one edge utilized to resolve a graph representation of a network, the at least one of the subset of data associated with one or more of cost, length, bandwidth or latency; and

an analysis component that adapts linear programming optimization algorithms, based on separation oracle(s), to work with an approximate separation oracle and information related to the selected subset of data to solve a primal and dual linear program within a same approximation factor as the approximate separation oracle.

The cited combination of references fails to disclose the features of this system. Specifically, Applicant respectfully submits that Williamson and Kodialam fail to teach or suggest, at least, "a component that receives a user input for a selection of at least one of the subset of data to bias at least one edge utilized to resolve a graph representation of a network, the at least one of the subset of data associated with one or more of cost, length, bandwidth or latency," as currently recited in the subject claims.

In framing its argument, the Office concedes that Williamson does not teach the aforementioned feature of claim 1 and looks to the added teachings of Kodialam to address this deficiency, (Non-Final Office Action, pp. 5-6). However, Applicant respectfully submits that Kodialam fails to do as much.

Kodialam discloses a packet network of nodes employing a routing technique with service-level guarantees to determine a path through the network for a requested

multicast, label-switched path, (Kodialam, Abstract). In applying the teachings of Kodialam to the features of claim 1, the Office states, "Kodialam explicitly discloses the above limitations (see column 7: lines 52-66, disclosing modeling a network and including node capacities in the model; column 9: lines 1-10 and 59, disclosing inputting network topology into the model, including arc/link capacities....," (Non-Final Office Action, pg. 6). Applicant respectfully disagrees with the Office's characterization of Kodialam relative to the currently amended claims.

The cited portions to Kodialam, as well as the rest of Kodialam, are silent regarding "a component that receives a user input for a selection of at least one of the subset of data to bias at least one edge utilized to resolve a graph representation of a network, the at least one of the subset of data associated with one or more of cost, length, bandwidth or latency...." For example, Kodialam provides:

> Having described the underlying definitions, network conditions, and predefined quantities, the multicast routing algorithm may now be described. An M-LSP request arrives at the router of the ingress point, and **the request is defined by a triple {s, R_s, b}. As described, previously, the first field s specifies the source of the multicast connection, the second field R_s specifies the set or receivers, and the third field b specifies the minimum amount of bandwidth (or effective bandwidth) demanded for the connection paths of the M-LSP request**.
>
> (Kodialam, col. 7, lines 42-51) (emphasis added).

In other words, the minimum amount of bandwidth dictates the multicast connection. Nowhere in Kodialam is there disclosure of the user input element of claim 1. This is because Kodialam is focused on using a heuristic algorithm to compute maximum multicast flows to determine links in the network that are "critical" to satisfy

future multicast routing requests and minimally interfere with capacity paths needed for future demands (Kodialam, Abstract). Identifying the critical links is based on the minimum amount of bandwidth and not a user input selection of a subset of data. As such, user input for a selection of one or more of cost, length, bandwidth or latency to bias at least one edge utilized to resolve a graph representation of a network is not contemplated by Kodialam, nor is there any teaching or suggestion contained therein. Indeed, the only mention of input disclosed in Kodialam pertains to describing methods in pseudo-code (i.e. Input: A directed graph G=(N,A with arc capacities c_{ij}, Input: a directed graph G_w=(N, E) with a set of edge costs associated with E), (Kodialam, col. 9, line 59 and col. 14, lines 8-9).

Based on the aforementioned, Applicant respectfully submits that independent claim 1 is patentable over Williamson and Kodialam, alone or in combination, and it is further submitted that the standing rejection under 35 U.S.C. §103(a) should be withdrawn.

Dependent claims 2 and 5-9 depend from independent claim 1 and are allowable by virtue of this dependency, as well as for additional features that they each recite. Applicant also respectfully requests individual consideration of each dependent claim.

Therefore, for at least the reasons set forth above, it is respectfully submitted that the present rejection under 35 U.S.C. §103(a) should be reconsidered and withdrawn.

Claims 3, 4, 16-19, 21-29 and 35

Claims 3, 4 16-19, 21-29 and 35 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Williamson in view of Kodialam, and further in view of Karr. As mentioned above, claim 23 is canceled with the subject matter recited therein incorporated into independent claim 16. Based on the following, Applicant respectfully traverses the rejection.

Independent claims 16 and 28, while of a different scope from each other and claim 1, include recitations similar to those discussed above in connection with claim 1. Specifically, claims 16 and 28 currently recite, "obtaining user input for a selection of at least one desired parameter data from a networked system to bias at least one edge of a graph representation of the networked system for utilization in determining an optimum distribution, the selected at least one desired parameter data associated with one or more of cost, length, bandwidth or latency," and "receiving a user selection of at least one parameter corresponding to the linear program to bias at least one edge of a graph representation of a network data route for data dissemination, the at least one parameter associated with one or more of cost, length, bandwidth or latency," respectively.

As fully discussed above, the combination of Williamson and Kodialam fail to teach or suggest, at least, these features. Moreover, Applicant respectfully submits that the added teachings of Karr also fail to rectify the aforementioned deficiencies of the other cited references. This is because Karr discloses an informal derivational framework for linear programming algorithms and deriving the ellipsoid method using the ideas of the framework, (Karr, Abstract) and is also silent regarding the user input/selection features

of the subject claims. In addition, the Office does not assert that Karr teaches or suggests these features.

Therefore, Applicant respectfully submits that Williamson, Kodialam and Karr, alone or in combination, fail to teach or suggest the features of independent claims 16 and 28, as currently recited, and respectfully requests that the rejection be reconsidered and withdrawn.

Dependent claims 3, 4, 17-19, 21, 22, 24-29 and 35 depend from any one of the independent claims previously discussed and are allowable by virtue of this dependency, as well as for additional features that they respectively recite. Applicant also respectfully requests individual consideration of each dependent claim.

Claim 15

Claim 15 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Williamson in view of Kodialam, and further in view of Hougardy. Based on the following, Applicant respectfully traverses the rejection.

Claim 15 depends from independent claim 1 and therefore includes all of the features recited in claim 1. For the reasons provided above with respect to claim 1, Applicant respectfully submits that the combination of Williamson and Kodialam fails to teach or suggest the features of claim 15.

Additionally, the added teachings of Hougardy fails to compensate for the deficiencies of the other cited references since, *inter alia*, Hougardy does not teach or suggest "a component that receives a user input for a selection of at least one of the

subset of data to bias at least one edge utilized to resolve a graph representation of a network, the at least one of the subset of data associated with one or more of cost, length, bandwidth or latency....," as recited in claim 1, and included in claim 15. While Hougrady discloses Steiner tree approximation algorithms, it is also silent regarding the component feature recited above. Indeed, the Office does not characterize Hougardy in this manner.

Therefore, Applicant respectfully submits that Williamson, Kodialam and Hougardy, alone or in combination, fail to teach or suggest the features of claim 15 and respectfully requests that the rejection be reconsidered and withdrawn.

Claim 20

Claim 20 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Williamson in view of Kodialam, Karr and Hougardy. Based on the following, Applicant respectfully traverses the rejection.

Claim 20 depends from independent claim 16 and therefore includes all of the features recited in claim 16. For the reasons provided above with respect to claim 16, Applicant respectfully submits that the combination of Williamson, Kodialam and Karr fails to teach or suggest the features of claim 20.

Additionally, the added teachings of Hougardy fails to compensate for the deficiencies of the other cited references since, *inter alia*, Hougardy does not teach or suggest "obtaining user input for a selection of at least one desired parameter data from a networked system to bias at least one edge of a graph representation of the networked

system for utilization in determining an optimum distribution, the selected at least one desired parameter data associated with one or more of cost, length, bandwidth or latency," as recited in claim 16, and included in claim 20. While Hougrady discloses Steiner tree approximation algorithms, it is also silent regarding the aforementioned feature above. Indeed, the Office does not characterize Hougardy in this manner.

Therefore, Applicant respectfully submits that Williamson, Kodialam, Karr and Hougardy, alone or in combination, fail to teach or suggest the features of claim 20 and respectfully requests that the rejection be reconsidered and withdrawn.

CONCLUSION

For at least the foregoing reasons, it is respectfully submitted that claims 1-9, 15-22, 24-29 and 35 are in condition for allowance. Applicant respectfully requests reconsideration and withdrawal of the rejections and an early notice of allowance.

If any issue remains unresolved that would prevent allowance of this case, **Applicant requests that the Examiner contact the undersigned attorney to resolve the issue**.

Respectfully Submitted,

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